

## **REMARKS**

In response to the above-identified Office Action, Applicant amends the application and seeks reconsideration thereof. In this response, Applicant amends Claim 1. Applicant does not add or cancel any claim. Accordingly, Claims 1-15 are pending.

### **I. Claims Rejected Under 35 U.S.C. §112**

The Examiner rejects Claims 1-4 under 35 U.S.C. 112, second paragraph because the phrase “on the substrate” in lines 3 and 5 of Claim 1 has insufficient antecedent basis. Applicant has amended claim 1 to insert the word “circuit” before the word “substrate” in the two instances identified by the Examiner. Thus, the amended phrase “on the circuit substrate” has an antecedent basis which is recited in line 2 of Claim 1.

Claims 2-4 are rejected for the reason that their base Claim 1 has insufficient antecedent basis. Applicant respectfully submits that the above amendment to Claim 1 has provided the required antecedent basis. Accordingly, reconsideration and withdrawal of this rejection of Claims 1-4 are requested.

### **II. Claims Rejected Under 35 U.S.C. §103(a)**

Claims 1-4 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,663,946 issued to Seri, *et al.* (“Seri”). Applicant respectfully traverses this rejection.

To establish a *prima facie* case of obviousness, the Examiner must show the cited references, combined, teach or suggest each of the elements of a claim. Claim 1 includes the elements of “a first dielectric material,” “a different second polymerizable dielectric material on the circuit substrate,” and “the second dielectric material comprising a glass transition temperature of at least 250°C and a thermal decomposition temperature of at least 400°C.” Seri does not teach these elements. In particular, Seri does not teach the first and second dielectric layers “on the circuit substrate.” Rather, Seri teaches a multi-layer wiring substrate which includes alternating dielectric layers and cladding layers within the substrate. Having dielectric layers within the

fundamentally different from having the dielectric layers on the substrate. Thus, Seri does not teach or suggest each of the elements of Claim 1.

Furthermore, the Examiner correctly points out that Seri does not teach the glass transition temperature and the thermal decomposition temperature as recited in Claim 1. However, the Examiner asserts that these are variables of the art which one of ordinary skill in the art would be able to determine. Applicant respectfully disagrees.

Applicant notes that the capability of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness. See MPEP 2143.01. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the references. Seri explicitly teaches using the liquid crystal polymer as a dielectric material for solving the problems of the prior art (col. 1, lines 57-67, and col. 2, lines 1-4), and also discloses that the melting point of the liquid crystal polymer is preferably in the range of 250°C-350°C (col. 10, lines 18-21). Seri does not teach or suggest any thermal variables but the melting point. Seri also does not teach or suggest any dielectric material having the thermal properties as claimed. Thus, a person of ordinary skill in the art would find no suggestion or motivation to modify Seri to use a dielectric material having the glass transition temperature and thermal decomposition temperature as recited in Claim 1.

Moreover, even if Applicant modifies Seri to include the glass transition temperature and thermal decomposition temperature, the temperatures thus obtained would be those of the liquid crystal polymer following the teaching of Seri. Thus, modifying Seri will not produce the recited temperature range.

The Examiner further asserts that it is known in the art that cyanurates decompose at the high temperatures recited in the claims and have high glass transition temperatures. The Examiner bases this assertion on the ground that cyanurates are used in fire retardant compositions. Applicant respectfully submits that the Examiner is engaging in impermissible hindsight in view of Applicant's disclosure by assuming Seri teaches or suggests the use of cyanurates. Seri teaches

and stresses the merits of using the liquid crystal polymer as a dielectric material (col. 2, lines 1-4). There is nothing in Seri that teaches or suggests using cyanurates as a dielectric material.

In view of the reasons set forth above, reconsideration and withdrawal of the obviousness rejection of Claim 1 are respectfully requested.

In regard to Claims 2-4, these claims depend from independent Claim 1 and incorporate the limitation thereof. Thus, at least for the reasons mentioned above in regard to Claim 1, Seri does not teach or suggest each of the elements of Claims 2-4. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 2-4 are respectfully requested.

Claims 5-15 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,663,946 issued to Seri as applied to Claim 1, and in view of U.S. Patent No. 6,093,636 issued to Carter, *et al.* (“Carter”). Applicant respectfully traverses this rejection.

Claims 5 and 11 each recite the element of a dielectric material comprising “a glass transition temperature of at least 250°C and a thermal decomposition temperature of at least 400°C.” Seri does not teach or suggest these thermal properties. Carter does not cure this defect. Rather, Carter specifically discloses that the temperature range about 350-400°C is at or above the thermal decomposition temperature of the polymer (col. 21, lines 7-11). This temperature range is different and below the claimed thermal decomposition temperature of at least 400°C, and therefore does not teach or suggest the claimed thermal decomposition temperature. Thus, Seri in view of Carter does not teach or suggest each of the elements recited in Claims 5 and 11. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 5 and 11 are respectfully requested.

Claims 6-10 and 12-15 depend from independent Claims 5 and 11 and incorporate the limitation thereof. Thus, at least for the reasons mentioned above in regard to Claims 5 and 11, Seri in view of Carter does not teach or suggest each of the elements of Claims 6-10 and 12-15. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 6-10 and 12-15 are respectfully requested.

## CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-15 patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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### CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on March 31, 2005.

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